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PROGRAM PLANNING FOR
A BLIND MULTIHANDICAPPED
STUDENT - A CASE STUDY

by

Ron L'Esperance

Victoria Jeans

A Project Thesis
presented in partial fulfillment
of the requirements for the degree of
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Joseph Paul Ingram Ph.D.
Dr. Michael MacNeil

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Dedications

Ms. Vicki Jeans wishes to dedicate the Project Thesis to her late father, Mr. Victor Jeans, whose interest and support throughout her education has been a source of constant inspiration.

Mr. Ron L'Esperance wishes to dedicate the Project Thesis to his son, Timothy Daniel George (DOB - 06/9/79) whose birth provided further impetus to study child development.

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PREFACE

The purpose of this study is to examine all the components necessary for the development of educational programs for blind multihandicapped students. Background information on the evolution of service to the blind multihandicapped in Atlantic Canada is provided and the salient characteristics of the blind multihandicapped population are identified, including the etiology of multihandicapping conditions as well as the psychological and environmental variables that contribute to the intensity of the condition. The investigators utilize the case study format. Documentation on the subject's medical and educational history is provided. The procedure for assessing the subject is described in detail and an Individual Educational Program is designated on the basis of the data accumulated from three tests administered to the subject. The same three tests are administered following a three month period of programming to illustrate whether or not the Individual Educational Plan extended to the subject has been successful in terms of expediting developmental gains in various skills areas. The investigators extrapolate from the case study and explain how this

sample relates to overall programming criteria for blind multihandicapped children and youth. The investigators offer a comprehensive Model of Intervention in the delivery of service to blind multihandicapped children. This model outlines strategies to be employed during early intervention and stipulates placement options throughout the education of blind multihandicapped students. Teaching strategies and other important factors in the educational placement are discussed. The investigators conclude that developmental intervention does indeed work within the education paradigm for blind multihandicapped children and youth and that the format for educational program planning and design illustrated in this study is widely applicable to all blind multihandicapped students.

INTRODUCTION

PROGRAM PLANNING FOR THE BLIND MULTIHANDICAPPED STUDENT:

A CASE STUDY

The purpose of this study was twofold - first, to examine the various essential components necessary in developing an educational program for blind multihandicapped students, and second, to design and develop an individual educational program (IEP) for one blind multihandicapped student.

The type of educational program which the investigators have designed is fairly representative of the needs of blind multihandicapped students. In the evaluation of a program for one student, the investigators feel that this study can be used as a basic guideline for approaching the development of subsequent programs, since the theoretical precepts for programming are essentially the same for all blind multihandicapped students. This thesis investigates each of the major components of the educational program in its interrelatedness to the whole program.

The investigators intend this study to be of relevance to special educators, government departments, private planning agencies, and parents of blind multihandicapped

students who do not have access to specialized educational programs.

Review of recent literature suggests that the goals for education in the public schools are as follows: (1) to develop communication skills; (2) computational skills; (3) critical and disciplined thinking; (4) civic, social and moral responsibility; (5) originality and imagination; (6) the encouragement of curiosity and the development of knowledge and understanding about oneself, one's fellows, one's environment and the relationship among the three; and (7) training for employment. (Royal Commission, Vol. III, 1974)

These designations then become a model, a philosophical and ideological basis for all education, including the education of the severely impaired. Obviously, the methodologies and exigencies involved in the delivery of service to the severely impaired must be stipulated. These considerations are often addressed in very general terms; for example, children suffering from special difficulties should be enabled to live their lives as nearly as possible like those children who do not have such difficulties.

(Royal Commission, Vol. I, 1974)

Provincial education legislation varies widely in Canada, sometimes allocating the responsibility for education of school-aged handicapped children to divisional

boards, sometimes providing such education under government auspices (Vulpé, 1977) so that while there is legislation regarding service delivery to special needs students, often this legislation fails to specify procedures for implementation of programs and for satisfaction of over-all objectives; whereas in the United States Public Law 94-142 is a Federal Mandate for appropriate education for all children from the age of two in the school system. (Vulpé, 1977).

In the Atlantic Provinces of Canada the delivery of services to the blind multihandicapped student is approached on an interprovincial basis. As a result of the recommendations contained in the Kendell Commission Report, Nova Scotia, 1975, to the Ministers of Education in the Atlantic Provinces, an Interprovincial Board was set up known as the Atlantic Provinces Special Education Authority. This report recommended that the Governments of the Atlantic Provinces recognize, and endorse the right of all handicapped persons to be educated to the maximum of their potential, and develop a comprehensive range of services and programs sufficient to meet the educational needs of all handicapped persons. It further recommended that wherever possible handicapped persons should be educated in close proximity to the home and cultural milieu

to which they have been born.

Obviously for the blind multihandicapped, an intervention strategy that utilizes the public school system will not be desirable, at least initially. These students often reside in geographically isolated communities which do not have access to a nexus of specialized services. The multihandicapped, which the Kendell Commission Report designates as Category #1, are of low incidence. Thus it would simply not be economically viable to offer service to Category #1 persons on a decentralized basis, nor could the benefits of research, shared information, and public education be so conveniently engendered. Therefore a centralized service system would be more desirable. The Kendell Commission Report recommended that services and programs for Category #1 children be planned and operated on an interprovincial basis in Atlantic Canada. The recommendations of the Kendell Report inspired an analysis of Service Systems then in operation, and this analysis became the driving impetus in developing new program objectives for the servicing of the blind multihandicapped in Atlantic Canada (Atlantic Provinces Educational Resource Centre for VI Paper #1, May, 1974). The interprovincial Board (APSEA) decided to establish and maintain a facility for the treatment and education of multihandicapped

visually impaired persons. At the time, it was anticipated that these students would require the central campus (Centralized Servicing) for their entire schooling, since their disabilities are so pervasive. However, this does not absolutely preclude the possibility of ever providing service in the home community. It recognizes that the need-structure of programming initially for these students would reside in developing all of those skills which would make integration possible and thereby maximize these students' potential for participation in the mainstream of the culture (Wolfensberger and Glenn, 1975).

The first program for the blind multihandicapped students in Atlantic Canada was instituted at Sir Frederick Fraser School for the Visually Impaired, Halifax, Nova Scotia, in the academic year 1976-1977. Subsequently there has been an expansion of services with two full time developmental units in operation, servicing fifteen students directly.

1. Statement of Problem

The investigation addresses itself both to an examination of the essential components of programming for blind multihandicapped students and to the development of an individual educational program for one blind multihandicapped student. However, this is not all. The

delivery of service to the blind multihandicapped in Atlantic Canada is still in a developmental stage; hence, the problem revolves around how the investigators may, through their research, expedite the process of further program development and expansion. While there are a great number of research questions to be answered and theories to be tested in further studies related to all special needs children, there is little organization of presently available information that may be more broadly applied.

In the identification and isolation of components in this Program Plan the investigators offer a rationale, intervention strategies, methodologies, implementation strategies, evaluation, and follow-up procedures which may be utilized in broader application.

CHAPTER 1

DEFINITION, CHARACTERISTICS, AND ETIOLOGY

The investigators deem that it is necessary to define what is meant by the terms "blind" and "multihandicapped", and further, to outline the salient characteristics and etiology of blind multihandicapping conditions.

1. Blindness Defined

In the Atlantic Provinces a person is considered "legally blind" if the visual acuity in both eyes with proper refractive lenses is 20/200 (6/60) or less with the Snellen Chart or equivalent, or if the greater diameter of the field of vision in both eyes is less than twenty degrees. (The Ministry of Education, Ontario: A Project, 1976; Jan, Freeman, Scott, 1977; Robinson, Dr. G. C., 1974). This is a legal definition, one which is useful in defining criteria or describing a single aspect of functioning.

2. Characteristics of Blind Multihandicapped

While the definition of "blindness" is a relatively easy one to grasp, the notion of "multihandicapped" is certainly a great deal more complex. "Handicap" in

itself is an elusive term and how one views it depends entirely on one's experiential range. Obviously it connotes a different meaning for professionals who deal with the handicapped than for the layman who has been, perhaps, exposed to a wide range of separate occurrences of handicaps (paraplegia, blindness, deafness), but who knows little, if any, of the ramifications of the over-all handicapping conditions.

The term "blind multihandicapped" indicates there are handicapping conditions beyond or subsidiary to the blindness. There are indeed many variables in the situation of the blind person who has additional handicapping conditions, all of which need to be diagnosed and considered on an individual basis when delivering services to him (Salmon, 1965). The fact is that there is no typical multihandicapped blind person (Thomas, 1972; Jan, Freeman, Scott, 1977). Just as all normal persons develop diversely because of different economic, cultural, social, familial situations (to mention but a few of the concomitant variables), one would expect that the degree and extent of disability in the blind multihandicapped person would reflect a marked diversity depending on a multiplicity of variables, i.e., his age at onset of the handicapping

conditions, the etiology of the handicapping conditions, the availability of sensorimotor and language stimulation in the person's early environment, the psychological impact of a physical loss (Jacobs, 1974; Warren, 1977; Freedman, 1967). However, if one keeps in mind that there is no stereotype, the following general features of blind multihandicapped persons can be noted (Warren, 1977; Jan, Freeman, Scott, 1977; Thomas, 1972; Wilson, 1974; Carolan, 1973; Sattler, 1974):

1. They have limited capacity to learn and they display insignificant academic skills. They often display the same hard and soft signs of neurological disorders as exhibited by children with organic brain damage, namely: difficulty in abstracting, organizing, analyzing, synthesizing, inability to learn quickly, inability to shift thought (inflexible behavior), inability to integrate and to see relationships between two or more things, inability to anticipate or plan ahead, memory defect, faulty perception, perseveration, lack of goal direction, need for tactile models.
2. Postural and gait problems are common; the child walks "out-toeing" fashion, has a wide-based stance with very

- noticeable delayed motor development. Such children are often hypotonic. A flattening of the back of the skull could give evidence that the subject spent excessive time on his back in infancy.
3. An overwhelming majority of these children display "Blind Mannerisms". These are described as repetitive or stereotyped movements not directed toward the attainment of an observable or obvious goal. There is a lengthy classification of these self-stimulatory behaviors and they include such behaviors as rocking, head banging, fluttering, finger manipulations, etc.
 4. The majority of these children exhibit poor social skills and show signs of immaturity.
 5. Most blind multihandicapped children are usually quite satisfied with only familiar activities and resist new experiences.
 6. There is, in the majority of cases, language delay. The blind multihandicapped student may be completely non-verbal, echolalic, or verbalize excessively.

7. Most of these children take three or four times longer to learn mobility skills than do normally functioning blind children.
8. These children usually exhibit a range of behavioral problems from moderate to severe.
9. All of the blind multihandicapped children present diversified needs that require a multidisciplinary approach if any degree of success is to be attained.

3. Etiology

a. Pathological

The causality of multihandicapping conditions is a disputed issue. However, there are certain types of ocular pathology frequently associated with mental retardation. The majority of children with congenital optic atrophy are subnormal in intelligence. Approximately 6 to 15 percent of blind children have cerebral palsy. Brain damage is more commonly observed among those children who have a visual impairment than amongst sighted counterparts (Jan, Freeman, Scott, 1977).

b. Environmental

Other multihandicapped blind children exhibit

developmental delay primarily as a result of the absence of early and adequate stimulation in infancy. Since vision is an integrative sense, its absence renders the blind infant more dependent on facilitative interventions, which if they are not forthcoming cause an overall delay in development (pseudo-retardation).

c. Psychological

Further handicapping conditions are related to the psychological impact of the handicap. It is not known how a blind child develops a self concept, how he conceptualizes about his physical world or even if words have the same meaning to him as to sighted children (Jan, Freeman, Scott, 1977). And while it is impossible to stereotype the psychological implication of any disability, it is safe to say that a disabled child develops a self-image that reflects the attitudes of parents, peers, siblings, educators and community figures. If these attitudes are negative they have a debilitating effect on a child. They restrict maturational growth, and foster lack of confidence and withdrawal (Freedman, 1967).

In conclusion the investigators feel that the reader should note that the etiology of the particular handicapping condition is not attributable to any single factor but rather, in the majority of cases, is related to a complex spectrum of pathological, environmental, and psychological circumstances. Hence, there is no stereotypic multihandicapped child.

CHAPTER II

BACKGROUND INFORMATION

A. A Frame of Reference

The investigators find it necessary to clarify a pathological syndrome known as occulo-digital dental syndrome (ODDS) in reference to the subject. This syndrome is very rare and is known by several other names, such as: oculodentosseous dysplasia (Gorlin, Pindborg, Cohen 1976); Meyer-Schwichenath and Weyers Syndrome (Jablonski, Saunders, 1969, Nema, 1973); and Cryptophthalmos (Magalini, 1971).

There is some latitude as regards the symptomatological interpretation of this disease; however, the salient features are as follows: narrow nose; microphthalmus, plus or minus glaucoma; enamel hypoplasia; digit abnormalities, including camptodactyly of the fifth finger, syndactyly of the fourth and fifth fingers; characteristic physiognomy, cleft palate, middle and external ear malformations.

(Magalini, 1971; Gorlin, Pindborg, Cohen, 1976; Jablonski and Saunders, 1969; Nema, 1973).

In addition, there was considerable variability in the sources surveyed as regards the etiology

of the syndrome. All the sources agreed on the fact that the etiological nature of this malformation has yet to be discovered.

B. Subject

The subject chosen for this study is a seven year one month old female, with a diagnosed pathological syndrome known as occulo-digital dental syndrome (ODDS) (Nelson, 1979). The investigators obtained relevant information with respect to the subject through:

- (1) interviews with the mother and previous teachers;
- (2) medical, psychological, and educational files;
- and (3) from the investigators' direct observation of the subject's behavior at home and in the classroom.

At an early age the subject suffered multifarious medical difficulties. The syndactyly of the 4th and 5th fingers (webbed effect) and the cleft palate were surgically corrected in the 2nd year of life. Poor mineralization of the teeth resulted in these being capped at the age of four. The subject has a history of middle ear infections requiring myringotomies and tube insertions; however, the subject is considered to have normal bilateral peripheral auditory function.

Various visual problems have been noted. At

nine months of age, small corneas with high myopia were discovered. Bilateral strabismus was repaired at seventeen months. In 1977 a diagnosis of optic atrophy and high myopia with elevated intra-ocular tensions was made. In 1978, a diagnosis of optic nerve hypoplasia was made. There were EEG abnormalities noted, arising from occipital lobe; hence, it is suspected that her blindness has a cortical element.

The subject's early developmental milestones were significantly delayed; she sat independently at twelve months, she crawled at twenty-one months, and made single word utterances (unintelligible) at age three years.

The subject attended a day care centre for physically disabled children from 1974 until mid-1977. By June of 1977 (subject's chronological age being four years eight months), the subject was not toilet trained and self-help skills of dressing, undressing, and eating had not been acquired. There was no evidence at this time of visual functioning or imitative language, although the subject did occasionally respond to very simple commands.

Following this placement the subject was sent to a special class in a regular public elementary school

where she remained during the academic years 1977-1978 and 1978-1979. The subject was in a class with seven physically handicapped children with one teacher and two teacher's aides. She was remarkably lower functioning than the other children in this class. During this period considerable progress was logged, primarily in the area of receptive language development, gross motor skills, and self-help skills.

Throughout these placements the subject was a day student. She was transported each day to and from school. In the past history of the subject there has not been a "stable" training environment. The absence of a stable training environment had an adverse effect on her overall development. The investigators attempt to document (in Chapter V) that the inclusion of a stable environment is a necessary dimension of successful programming for the blind multihandicapped student.

C. Tests Administered

The choice of these tests was not a thoroughly arbitrary decision. The investigators chose the specific tests on the basis of the developmental

data collected, data which is necessary to develop an Individual Educational Program. The investigators administered three formal tests to the subject. Only one of these tests was used as a basis for overall developmental assessment and subsequent programming. The following tests were administered: (1) The Primary Progress Assessment Chart of Social Development; (2) The TARC Inventory System; and (3) The Vulpé Assessment Battery.

Prior to the investigators' testing, it was substantiated that the subject was non-verbal and severely multihandicapped. The investigators felt that a test which depended on the subject's ability to respond conventionally would not be useful; and in addition, the chosen test should meet several criteria. For instance, it should (1) be easily administered by persons of various backgrounds; (2) be suitable for use in conjunction with any system of service delivery (i.e. home, school); (3) consider as many areas of child development as possible so as to give a comprehensive picture of developmental functioning; (4) accommodate corroborative input from primary and health professionals, etc. The investigators agreed that the Vulpé

Assessment Battery best met these criteria.

The Vulpé Assessment Battery is not standardized in the formal sense, as described for test construction. This battery is not designed to compare one child with other children of the same age directly, but rather is designed to give a systematic overview of many aspects of the individual child's developmental pattern (Vulpé, 1977). The Vulpé Assessment Battery follows typical developmental stages in assessing the atypically developing child. In atypical development the sequence of the stages of development is the same as for typical development; however the rate of acquisition and the range of skill ability is different.

The other two tests (PAC and TARC) administered provide a short form behavioural assessment of the capabilities of severely handicapped subjects. Both provide a developmental snap-shot component: that is, they give one a visual check of developmental levels in the areas of self-help skills, communication, and social skills. The Primary PAC provides a diagram representing skills which are performed easily and/or frequently by the subject on the lowest stages of social development. The assessor shades these numbered areas according to the subject's mastery of the

corresponding skills, and leaves blank those which cannot be assessed. The TARC system has a graph component which gives a quick visual picture of skills development in the four above mentioned areas. Upon completion of these tests one has a quick visual picture of the subject's developmental skills level.

In the atypically developing child one almost always sees wide disparity between strengths and weaknesses as regards skill development. These short form tests graphically illustrate this phenomena. For example, with a quick visual check, one can note that a particular subject's strength is self-help skills and his/her weakness is fine motor skills or communication skills.

Further, these tests are useful in that they can be used to demonstrate ~~accountability~~ for educational or habilitative programs by repeated testings over time.

In administering these two tests (PAC and TARC) to the subject, the investigators were attempting to discover whether the two different assessments would concur on what were the strengths and weaknesses in overall skills development in the four areas,

i.e. (1) self-help, (2) motor, (3) communication and (4) socialization. Since the two tests utilize different criteria, it was assumed that if their results roughly concurred, then this would provide a basic developmental profile of the subject. They were included so that the investigators could index progress by repeated testing over time (post-programming). Later, by comparison to the findings of the in-depth developmental assessment, (Vulpé Assessment Battery), the investigators could further assess the reliability of their designation of skill abilities.

D. The Investigators' Role as Participant Observers

It is important to note that the investigators' assessment of the subject was a "hands-on" type of assessment - the investigators engineered the assessment procedure so that they had a period of observation of the subject before the actual assessment began. These observations occurred across the two primary environments wherein the subject spent the entirety of her day, namely, the home and the school. During these initial observation periods, the investigators made

anecdotal notes of the subject's performance and spent time talking to the primary caregivers in her environment. The investigators also attempted to build a rapport with the subject, by talking to her, guiding her through her environment, and presenting her with objects to manipulate.

In compiling the data concerning developmental assessment of the subject, a set of stimulus conditions was engineered wherein the subject could demonstrably complete a prescribed (by the test format) task. This included providing the subject with (1) the props or materials to be manipulated; (2) the concomitant verbal instructions; (3) the physical prompt to ensure that the verbal instruction had a total sensory frame of reference, and (4) a familiar and comfortable environment (the home) wherein there would be minimal confusion for the subject. The main assessment was completed over a period of one month, with both investigators being present whenever testing was undertaken.

CHAPTER III

DATA ANALYSIS

The investigators compared the data compiled in the Short Form Behavioral Tests, the PAC and the TARC (Figures 3:1 and 3:2). The purpose of this comparison was to determine whether the two different tests roughly concurred on what the subject's strengths and weaknesses were across the developmental areas stipulated as self-help skills, motor skills, communication skills, and socialization. By comparing the visual components (Figures 3:1 and 3:2) it can be seen that both tests roughly concur. Self-help skills appear to be strongest skills in both test, with communication skills, motor skills, and socialization skills showing a similar level of development over the two tests.

If these data are compared to the data formulated using the Vulpé assessment battery (Figure 3:3), further corroboration of the developmental profile noted above is observed. The Vulpé assessment battery indicates that self-help skills are significantly more well developed than other skill areas. Although the Vulpé assessment battery uses descriptives other than the four itemized in the PAC and TARC tests, i.e., self-help, motor, communication,

and socialization, comparisons of skill levels using these descriptives can be drawn from the Vulpé assessment battery. The Vulpé shows the following general developmental levels in the four skill areas: (1) self-help skills, 6 months to 30 months; (2) motor skills (fine motor and gross motor), 6 months to 24 months; (3) communication (language and cognitive processing), 3 months to 12 months; (4) and socialization, 8 months to 12 months.

Hence, all three tests show a similar range of general developmental levels. The Vulpé assessment battery shows significantly finer discrimination between skills areas for a number of reasons. Firstly, the Vulpé battery provides direct age correlates of functioning levels while the other two tests only provide indices of performance relative to a specific population within a general age range. Further, the Vulpé assessment battery provides a more accurate developmental profile since it subdivides each skill into smaller increments of behavior that can be assessed and itemized.

The information provided by the Vulpé assessment battery should be examined along a number of different dimensions. In developing an educational program based

on this assessment, the investigators considered the following:

1. By compiling an overall developmental profile on the assessment, the investigators can search for trends or patterns in the subject's learning abilities. A knowledge of a subject's learning patterns can aid in the construction of subsequent, meaningful learning experiences for the subject.

In the case of the subject in this study, an analysis of the developmental data (Figure 3:3) indicates that the subject's greatest strength lies in the area of "activities of daily living" (self-help skills), and that the subject's area of greatest weaknesses include skills which are subsumed under the rubric of language behavior and cognitive processing. These facts provide some clue as to how information should be presented to the subject in any prescribed learning situation. Obviously, the teacher or clinician cannot solely rely on language instruction for a performance criterion as the subject exhibits an overwhelming disability to process language and act upon its stimulus. However, since the battery indicates that motor skills and self-help skills are much stronger, it would be logical to assume that

in the presentation of learning experiences to the subject, a total sensory approach would be utilized. By employing this technique, the teacher or clinician expedites the interaction among developmental skill areas and the information processing mechanism.

2. The battery designates skill levels in critical developmental areas. All of the developmental skills are arranged hierarchically. Hence, when a subject's present skill level is determined during testing, the battery automatically provides a goal component by designating the next series of skills which must be learned in order to expedite further development in a specific skill area. The battery assists in goal planning for any subject, since presumably no subject will produce exactly the same spread of developmental skills. These goals are represented in the subject's Individual Education Plan (Chapter IV).
3. The battery provides an accountability schema. The battery may be administered following a period of programming (Post Programming, Chapter V). Data derived from Pre and Post programming periods could then be compared and developmental gain or loss indexed. Programs offered to a subject could then

be adjusted based on these data and over all program accountability could be assessed.

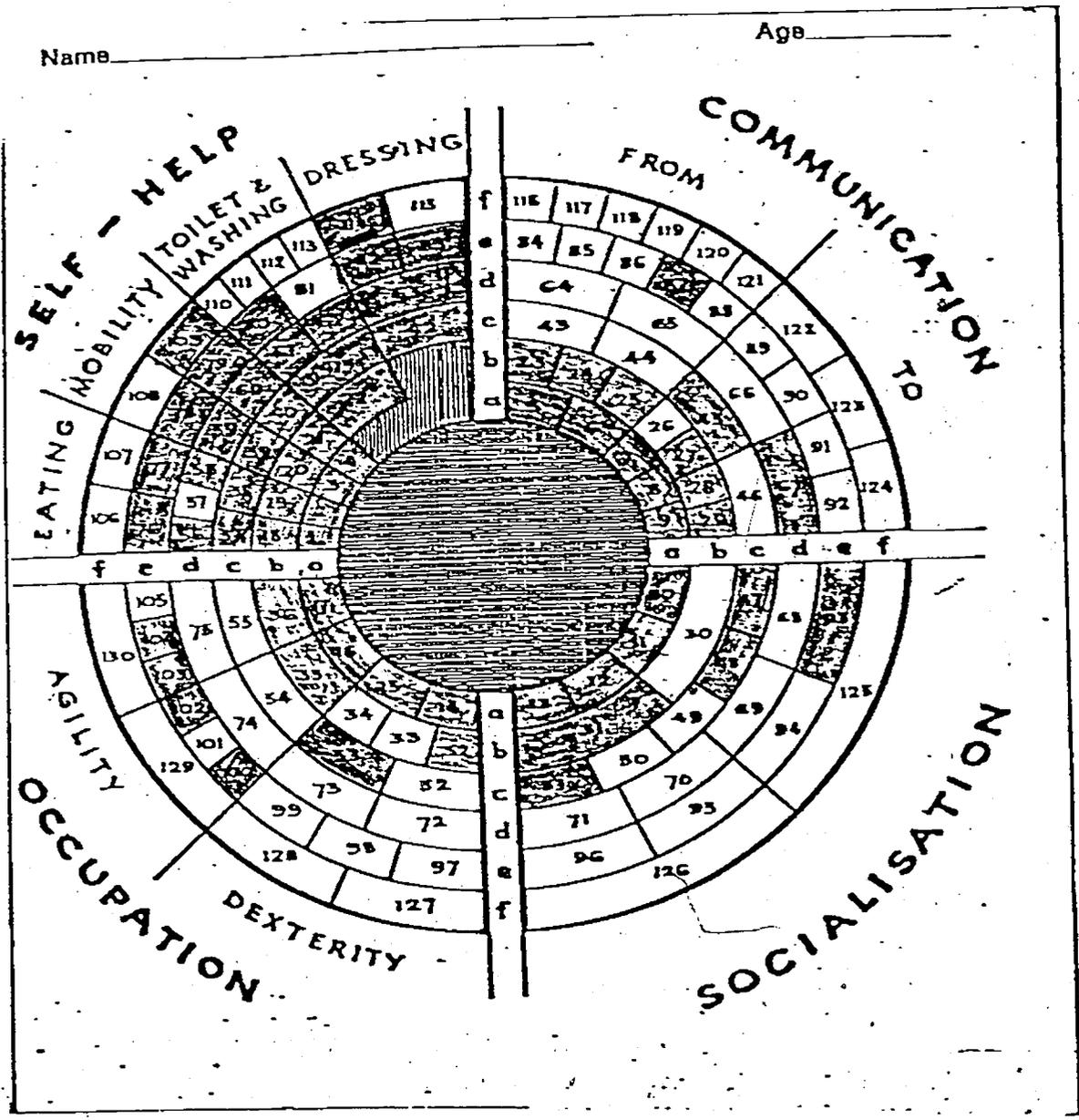
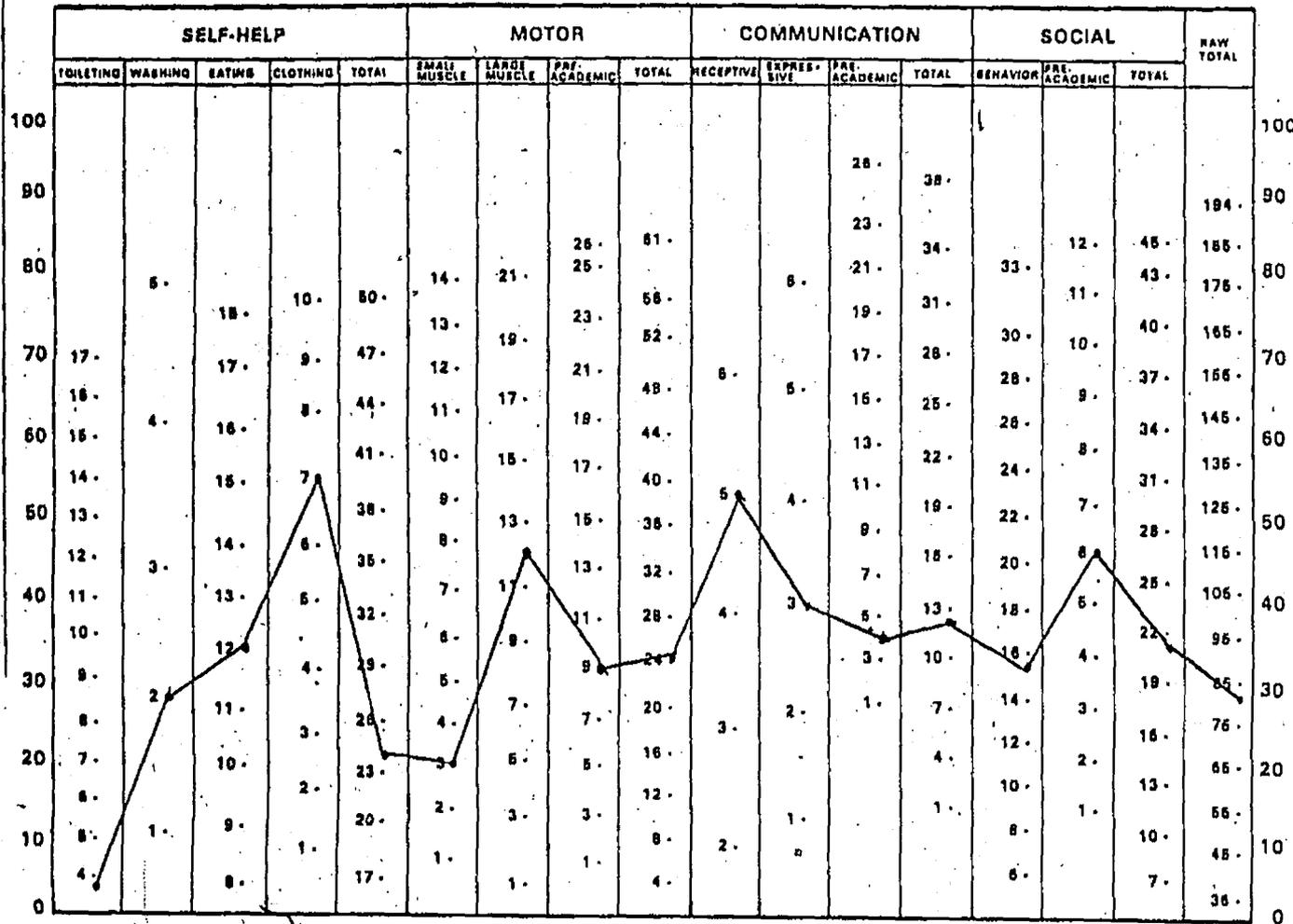


Figure 3:1 The Primary Progress Assessment Chart of Social Development

NAME _____ CLASS OR UNIT _____ RATED BY _____ DATE _____
 (or identification number)



PROFILE SHEET
STANDARD SCORES*

*Standard scores here are adjusted so that the mean score is 50 and the standard deviation is 20.

Figure 3:2 TARC

<u>Vulpe Assessment Battery</u>	<u>Baseline</u> (months)	<u>Ceiling</u> (months)	<u>General Developmental</u> <u>Level in Months</u>
1. Behaviour Organization			
- Behaviour control/ response to limits	12	18	6 - 18
- attention - goal orientation	6	12	
- dependence - independence	12	18	
- problem solving	9	12	
2. Gross Motor Behaviour	15	24	15 - 24
3. Fine Motor Behavior	6	10	6 - 10
4. Language Behaviour			4 - 10
- Receptive	6	10	
- Expressive Language	4	6	
5. Cognitive Processing			3 - 12
- Cause/Effect - means/ end	4	6	
- Auditory memory/ discrimination			
	Not able to be accurately assessed. She appears to change her behaviour upon presentation of auditory stimuli.		
- size concepts	3	6	

Figure 3:3 Vulpe Assessment Battery

	<u>Baseline</u> (months)	<u>Ceiling</u> (months)	<u>General Developmental</u> <u>Level in Months</u>
- body concepts			
- object concepts	6	10	
- shape concepts	3	6	
- space concepts	6	9	
- time concepts	Not able to be accurately assessed.		
- Amount and number concepts	Not able to be accurately assessed.		
- categorizing/ combining	5	7	
6. Activities of Daily Living			
- dressing	18	30	6-30
- feeding	18	24	
- toileting	15	18	
- grooming	9	12	
- sleeping	9	12	
- play	6	8	
- social interaction	8	12	

Environment - see anecdotal assessment

Figure 3:3 (continued) Vulpe Assessment Battery

CHAPTER IV

DEVELOPMENT OF A TEACHING PROGRAM

I. "Individual Education Plan" (IEP)

Since each blind multihandicapped child exhibits wide disparities in skills, abilities and behaviours, it is critical that an Individual Education Plan (IEP) be designed, commensurate with each child's individual needs. Such a plan should be based on an initial assessment which designates the individual child's level of functioning and should include: (1) the development of long and short term goals, (2) the specification of teaching content and sequentially ordered activities, (3) the designation of methodologies and teaching strategies. (Ficionciello, 1976; Thompson, 1977; Hewett, 1975; and Vulpe, 1977).

There are the basic precepts underlying the formulation of individual education plans. It is simply a designation of an educational program plan for a single individual. Different formats may be employed. For instance one proto-type which the investigators surveyed was called a "Comprehensive Development Plan" (Burns, 1972). However, it adequately met the

criteria outlined above for the IEP. Some educators utilize behaviourally based programming (Magar, 1962); others prefer to use instructional programming (Anderson, Hodson, Jones, 1975). Whatever the format employed, all IEP's are used to a similar end as a vehicle to maximally deliver educational servicing to an individual student, based on his needs.

Having an IEP in effect does not in itself ensure success. There are other factors to consider. The training setting and the staff involved are critical variables in the success of any IEP.

At the training phase it is hypothesized that training may best be expedited in a segregated "unit" because of the environmental control it affords (Wood, 1969; McClennen, 1970; Hart, 1969). In the segregated unit the educator can control, for example, the amount of extraneous sound permissible for maximum student performance. Further, a segregated environment affords the visually impaired student a feeling of security since, presumably, the student will have had the opportunity to explore the immediate environment adequately.

In addition, a certain level of environmental structure is required during the training phase. When

multihandicapping conditions complicate the educational problem, it cannot be assumed that the child will benefit from incidental contacts with the environment. The educator needs to know how and when to structure the training setting. (Hart, 1969; Rodden, 1970)

Staffing is also an important consideration. It is usual when programming for the blind multihandicapped student to have a number of staff involved i.e. (1) teachers, (2) paraprofessionals, (3) social workers, (4) psychologists, (5) parents, to cite but a few. If a number of different personnel are involved in teaching the same or similar skills to a subject on an IEP, then some programming must be included to provide consistency across all personnel and thereby reduce the level of confusion and disorientation in the subject (Hart, 1969; Wood, 1969). Hence, uniform techniques are extremely important. If one instructor does not follow the same method in having a subject put on, for example, a pull-over or sweater, then confusion by the subject is inevitable. These methodologies or uniform techniques may be designated in the Individual Education Plan and are usually developed using task analysis. Task analysis is a method whereby a complex task is broken

down into a series of simpler steps which, when presented to the learner in sequence, over time, facilitates acquisition of the more complex task. (Wood, 1969; Evans, 1975; Anderson, Hodson, Jones, 1975; Larsen, 1970). This method maximally guarantees consistency of presentation to the learner, since all staff have access to the task sequences.

II. The Subject's Individual Educational Plan Discussed

In the development of an IEP for the subject of this study, the investigators based the need for programming on the Vulpé Assessment Battery. Goal planning for the subject was undertaken in the following developmental skill areas: (1) language skills, (2) self-help skills, (3) motor skills (fine motor and gross motor skills), (4) social skills and (5) the management and elimination of appropriate and inappropriate behaviours.

The investigators designated long term goals in each of the aforementioned skills areas and short term goals as well. The specification of the goal is based primarily on the results of the Vulpé Assessment Battery and secondly on the investigators' observance of the subject in a wide variety of situations. The investigators utilized the goal component of the Vulpé

Assessment Battery which was discussed in the previous chapter. Hence, each of the skills designated in the subject's IEP is the logical point of departure based on her level of development as determined by the Vulpe Assessment Battery.

III. The Training Setting for the Subject

The training setting for the subject is a segregated unit for junior age (four years to eight years) blind multihandicapped students. The unit serves between five and seven students simultaneously. The unit includes the following facilities: (1) a kitchen, (2) several bathrooms, (3) dormitory space, (4) recreational space, (5) classroom space, (6) an office and conference room. Hence, the unit provides training facilities for a broad range of student needs, i.e. from self-help skills training to pre-academic/academic training.

IV. Staffing

The unit for blind multihandicapped students is administered by a teacher/department head who is directly accountable to the school administrators (fig: 4:1). The teacher/department head is responsible for: (1) the teaching of the students; (2) the design and imple-

	Dressing
	Eating Breakfast
	Washing
9:00 am - 9:25 am	Quiet time - Listening to Story or Music
	Teaching Period on one/one
9:25 am - 10:45 am	Gross Motor (Specifically Walking)
	Fine Motor Activities
	Listening Activities
10:45 am - 11:00 am	Recess with group
11:00 am - 12:20 pm	Two Teaching Periods on one/one
	Gross Motor Activities
	Fine Motor Activities
	Listening Activities
12:20 pm - 1:25 pm	Lunch (eating, washing skills)
1:25 pm - 2:10 pm	Quiet Time
2:10 pm - 3:00 pm	Group Activities (stories, songs, physical activity)
3:00 pm - 4:30 pm	Outdoor Activities (walking, play- ground equipment, visiting)
4:30 pm - 5:00 pm	Washing and getting ready for dinner
5:00 pm - 6:00 pm	Dinner
6:00 pm - 7:30 pm	Wash-up or Bath
	Play time
7:30 pm	Bed time for other children
	Subject kept up until midnight (explained later in Chapter)

Two mornings a week	(Tuesday and Friday)	Swimming one/one
Two periods a week (Forty Minutes each)	(Monday and Tuesday)	Phsyical Education one/one
Three times a week	(Monday, Wednesday, and Thursday)	Music
One Class a week (Forty Minutes)	(Tuesday)	Art
Home on Weekends	(Saturday and Sunday)	Leave Saturday am Return Sunday pm

2. Suggested Educational Program

A. DAILY LIVING SKILLS

1. EATING SKILLS

Long Term Goal.

To teach the subject to eat all meals independently.

Short Term Goals

Objective A:

To teach the subject to use a spoon to eat spoon foods.

Place and Time:

Dining-room at meal times.

Materials:

Spoon

Bowl with food (i.e. Pudding)

Program:

a. Basic Criteria:

1. Use food the subject likes.
2. Give lots of verbal and physical praise for correct response.
3. All staff must teach the same method for using a spoon.

b. Steps:

1. Hold hand over subject's hand. Take spoon. Help scoop food and bring to mouth. After subject takes a bite,

- help return spoon to bowl.
2. After a time, when subject is responding, gradually decrease assistance. Have a student take spoon, then assist in lifting part-way to mouth and lightly touch hand to bring spoon back to bowl.
 3. Decrease assistance until student is performing task on own.
 4. After subject has accomplished task, decrease praise to a minimum.

Objective B:

To teach the subject to eat a variety of foods, whatever is being served at mealtimes.

Place and Time:

Dining-room at meal times.

Materials:

Food being served from kitchen.

Ice Cream or Jello or Canned Fruit.

Program:

- a. Basic Criteria
 1. Use whatever foods are being served at particular mealtime.
 2. Decide a particular food the student really likes - in this case Ice Cream, Jello or Canned Fruit.
 3. Reinforce subject with favourite food each time she takes the food she usually will not eat.

4. Lots of verbal and physical praise for trying new food.

b. Steps:

1. Place in front of subject for about a minute and say what it is and leave it.
2. If after this time, the subject does not touch the food, give her a small amount of reinforcer and then immediately follow by other food.
3. Do this for every bite to begin with, gradually decreasing to every third or fourth bite.
4. Continue to reinforce subject only when subject initiates taking the food on her own.
5. Gradually decrease reinforcer as subject eats on her own and reward at the end of the meal with the reinforcer as a dessert.
6. No reinforcers may be used for some meals, but have to be reintroduced for new foods.

Objective C:

To teach the student to use a fork to scoop and to stab food.

Place and Time:

Dining-room at meal times.

Materials:

Fork

Plate with bite-size pieces of food.

Program:

a. Basic Criteria:

1. Decide before starting the method for using a fork.
2. Use food that the subject likes.
3. Give plenty of verbal and physical praise for correct response.
4. Be firm in response to inappropriate behaviour i.e. "No, _____".

b. Steps:

1. Hold hand over subject's hand and assist in finding food. Scoop or stab (determine which is appropriate - this varies) food, assist in bringing to mouth.
2. Assist in returning fork to plate.
3. Have subject use other hand to hold plate in position.
4. After time, as subject is responding, gradually decrease assistance until subject is able to perform task alone.
5. Decrease praise on a regular basis and use occasionally.

2. DRESSING SKILLS

Long Term Goal

To teach the subject to dress herself independently, including fasteners.

Short Term Goal

Objective:

To teach the subject to dress herself independently excluding fasteners.

Place and Time:

- a. In the morning when she gets up - or any appropriate time for dressing.
- b. Give as much time as is necessary on one to one basis with an adult.

Materials:

Clothing that the child will be wearing that day.

Program:

- a. Basic Criteria:
 1. Give plenty of verbal praise and encouragement.
 2. Always verbalize what you are doing.
 3. Work on a one to one basis.
 4. Break down dressing skills into steps that follow a sequence so that there is a consistency among persons teaching subject.
- b. Steps:
 1. With each article of clothing explain what is being done, i.e.

"Let us put your shirt on. Here is the collar. Put this arm in this sleeve," etc.

2. To start, physically put your hands over the subject's hand and put through each step of the dressing.
3. Gradually decrease help, e.g. when putting pants on, pull pants over feet and pull part way up, then have student pull them up the rest of the way.
4. Constantly give verbal praise, especially when subject tries on her own.
5. Keep decreasing assistance as subject becomes more independent.

The length of time to accomplish end goal varies with the subject. Do not rush. Progress to next step of dressing as subject is ready and has accomplished previous step.

There are many different ways to approach dressing. Decide before you start program which you prefer and be consistent.

3. WASHING SKILLS

Long and Short Term Goal

Objective:

To teach the subject to wash herself independently.

Place and Time:

Bathroom at appropriate times, for washing.

Materials:

Face cloth

Soap

Towel

Sink

Program:

a. Basic Criteria:

1. Give plenty of verbal praise and encouragement.
2. Always verbalize what is being done, "Wash your face,-----".
3. Proceeding on a one to one basis.
4. Beforehand, break down the steps for washing, so that everyone follows the same sequence in the same way.

b. Steps:

1. To begin, physically put your hand over the subject's hand and put through each step of washing, always saying

what is being done.

2. Gradually decrease help. Start the task but have subject complete the task.
3. Constantly give encouragement and praise as subject tries on her own.
4. Decrease assistance until subject has mastered all the steps in washing.

4. TOILETING SKILLS

Long Term Goal

To teach the subject independent toiletry, day and night.

Short Term Goal

Objective:

To teach the subject to use the toilet.
(Subject still in diapers and not toilet trained at all).

Place and Time:

In bathroom normally used by student.

Program:

Basic Criteria:

1. For one - two weeks keep a time chart as to when child urinates and defecates.
2. Set up a time chart as to when subject should be put on the toilet.
3. Keep reinforcer in bathroom out of reach to be given each time the subject urinates or defecates in the toilet.
(In this case, the reinforcer was a cheesie.)
4. Give lots of praise for appropriate behaviour.
5. Ignore inappropriate behaviour except to clean up immediately.

6. Record on sheet when student urinates or defecates in toilet and also when she does so elsewhere.
7. When student reaches a point when she has infrequent accidents, begin decreasing reinforcer.
8. Start giving reinforcer only when student goes on own to bathroom.

B. SOCIAL SKILLS

Long Term Goal

To teach the subject to engage in group activities independently for a period of about fifteen minutes.

Objective:

To teach the subject to be more aware of other children through group activities i.e. stories, songs and circle games.

Place and Time:

Wherever there is a group activity organized

for (1) Story time.

(2) Songs

(3) Playing musical instruments

(4) Circle games

(5) Movement to music

(6) Playground activities

(7) Cooking

(8) Even "rough-housing"

(9) Break time

Program:

This is a period when the program is not too structured. It is a relaxed and fun time, a time for the subject to be given the opportunity to spend time with the other children in a fairly leisurely

manner, but constructively.

The subject still has one adult with her to help her through the specific activity and supervise her peer contact. The subject is given guidance and directions, but without the pressures of the more intense one to one learning situations.

C. MOTOR SKILLS

1. FINE MOTOR SKILLS

Long Term Goal

To teach the subject independent manipulative skills.

Short Term Goals

Objective:

To teach the subject basic manipulative skills and manual dexterity using the following specified materials:

Large plastic baby beads (pull apart and put together), sponge, plastic container, water (squeezing water from sponge), peg board (placing pegs in board randomly), wooden blocks for stacking, plastic container and clothes pins (squeeze clothes pins and put on edge of container), stacking cubes which fit together, and wind-up toys.

Place and Time:

Take subject individually where there are few distractions.

One to one with an adult.

Program:

a. Basic Criteria:

1. Consumable reinforcers may be used for appropriate response.

2. Use lots of verbal praise and encouragement throughout.
3. Ignore inappropriate behaviour for ten to twenty seconds, then begin again.
4. Work with one material at a time, going on to another when child has mastered previous material.

b. Steps:

1. Take material, e.g. large plastic baby beads (already fitted together), pass to subject and say, "These are beads,-----."
2. Let subject explore for a period of about twenty to thirty seconds.
3. Then say, "Take the beads apart,----", as you show (hand over hand method) how to pull the beads apart.
4. Repeat instruction, wait ten to fifteen seconds then demonstrate again.
5. Praise or give consumable reinforcer whenever subject tries to respond on her own.
6. Repeat Step 4 after a short period of time.
7. Keep increasing time between giving instruction and demonstrating.
8. Decrease reinforcers as subject becomes more proficient.
9. After subject learns to use one material introduce another, but return frequently

to the material she has mastered.

10. Follow these steps when introducing each new material.

2. GROSS MOTOR SKILLS

Long Term Goal

To teach the subject independent mobility skills around the Unit.

Short Term Goals

Objective:

To teach the subject motoric independence

To strengthen muscles

To develop muscle tone

Using the following materials:

Body movement to Music

Push car

Swings

Trampoline

Walking on a Beam

Riding A Tricycle

Swimming

Walking in the Halls

Ascending and Descending Stairs

Time:

Consistently throughout the day.

Program:

a. Basic Criteria

1. Always verbalize what is being done.
2. Give plenty of praise and verbal encouragement as a reinforcer.

3. As the other reinforcer, point out the enjoyment of being able to do the activity.
4. Always proceed on a one to one basis, but with other children present to reinforce social skills.
5. Break down the steps beforehand according to what is involved in each skill.

b. Steps:

1. Have the subject explore the environment or pieces of apparatus that is involved, explaining in simple terms where she is and what is happening.
2. Always put the subject through the various steps first, stopping if subject shows any fear.
3. Give constant encouragement.
4. As subject becomes more proficient, decrease assistance. Let subject gradually become more independent.
5. Use verbal encouragement and assistance as a reinforcer; but with gross motor activities, the accomplishment of being able to do the activity is usually fun so therefore becomes a reinforcer.

D. LANGUAGE SKILLS

1. EXPRESSIVE LANGUAGE SKILLS

Long Term Goal

To teach the subject to use words independently in context.

Short Term Goals

Objective:

To teach the subject to repeat sounds and words.

To teach object concept development.

Place and Time:

Consistently through the day as subject is engaging in activities.

Specific time periods set aside during the day away from outside distractions and on a one to one basis.

Materials:

Specific objects that the child may come in contact with every day. These must be objects the child can feel and explore. Do not teach words which would have no meaning, e.g. CAT if you do not have a cat. For a visually impaired child, this would have no meaning.

Program.

a. Basic Criteria:

1. Make a list of specific objects to be used consistently and work on these.
2. Give much verbal praise and encouragement.

b. Steps:

In specific Class Time

1. Give the subject an object, e.g. a bell and say, "This is a bell".
2. The wait for the subject to explore the bell.
3. Say, "-----, say 'bell'".
4. Wait a few moments, then repeat.
5. Continue until the subject repeats the word, or for a period of time until the subject loses interest.
6. Always, no matter what time of day, name any object with which the subject comes in contact, e.g., passing her her toothbrush, say, "Here is your toothbrush, -----!" or, "This is a fork," when passing a fork.

Another good method for reinforcing expressive language is through children's songs or action songs.

2. RECEPTIVE LANGUAGE SKILLS

Long Term Goal

To teach the subject to respond to directions correctly.

Short Term Goals

Objective:

To teach the subject to respond to simple directions correctly.

Place and Time:

Carried on throughout the day as the subject is engaged in activities.

Program:

a. Basic Criteria:

1. Previous to beginning the program, write a list of specific directions the subject must learn, such as
Stand up, -----.
Sit down, -----.
Put your sock on, -----.
Go to the dining-room, -----.
2. Give much verbal praise and encouragement when subject responds correctly.
3. Always work on a one to one basis. Do not give general directions. Speak to subject alone and say her name.

4. If no response, give direction again.
5. If wrong response, give direction again.

b. Steps:

1. Give direction.
2. Wait about thirty seconds.
3. Give direction again and physically show the subject what to do, e.g., "Stand up, ----". Then stand her up.
4. Do this until subject responds correctly.
5. Repeat frequently throughout the day.
6. If the direction is longer, e.g., "Go to the diningroom, ----," start by showing the subject all the way, gradually decreasing your help along the way.

E. WALKING SKILLS

Long Term Goal

To travel independently throughout the school setting.

Short Term Goals

Objective:

To increase distance for walking.

To strengthen walking ability.

To increase stability in walking.

Time and Place:

Ten minutes every hour on a one to one basis
in a familiar area first, then outside familiar
area.

Program:

a. Basic Criteria:

1. Use small piece of cheesie as reinforcer.
2. Give plenty of verbal praise.
3. If subject refuses to walk, firmly get her to walk for a specified period of time.

b. Steps:

1. Hold subject's hand and walk, getting her to walk for ten minutes.
2. Every few steps she makes without resistance, reward with a piece of cheesie, giving much praise.
3. Decrease number of times for a cheesie as distance increases.

4. Gradually let go of hand and have student follow voice - again rewarding with a piece of cheesie and praise.
5. As distances increase, decrease giving consumable reinforcer, but continue praise.
6. Do this for ten minutes every hour.
7. As subject's ability for walking improves and distance increases, take subject for longer walks, and increase intervals between walking.
8. Continue until subject walks distance required during a normal day.
9. Begin walking inside and gradually work into going outdoors for walks.

F. SLEEPING PATTERNS

Long Term Goal

To teach the subject to sleep through the night from
8:00 pm - 7:00 am.

Short Term Goal

Objective:

To increase subject's uninterrupted sleeping
time to nine hours.

(Subject on medication for sleeping as she
awakened consistently throughout the night
for long periods of time (one to two hours).

Program:

a. Basic Criteria:

Take her off medication. Chart subject's
sleeping patterns to see when she goes to
sleep, when she wakes up and for how long.

(Subject was found to be sleeping for only
five to six hours throughout the night
between 7:30 pm and 7:00 am.)

b. Steps:

1. Keep subject up until she becomes
tired. (The investigators found this
to be midnight.)
2. When subject sleeps through the night
(until 7:00 am) put her to bed fifteen
minutes earlier.
3. Keep putting her to bed earlier and

earlier (fifteen minutes at a time)
until desired time is reached.

4. Put time earlier only when subject sleeps through from time set.
5. Arrange an active interesting day, as help in this procedure. Do not allow long periods of passive sitting.
6. See that subject has plenty of fresh air as an additional aid for sleep.
7. Make bedtime a pleasant and happy time.

G. SOLITARY PLAY SKILLS

Long Term Goal

To teach the subject solitary play.

Short Term Goal

Objective:

To teach the subject to play constructively on her own.

Place and Time:

Take child individually where there are few distractions.

One to one with an adult.

Program:

a. Basic Criteria:

1. Find a toy that you think the subject would respond to. In this case, since the subject enjoys music, it was decided to use a wind-up radio.
2. Music becomes the reinforcer if subject winds up the radio. Also, always give lots of praise.
3. If there is negative response, ignore and begin again.
4. Afford lots of repetition.

b. Steps:

1. Pass the subject the toy saying what it is and let her explore and touch the toy.

2. Then with hand-over-hand demonstrate to the subject how to wind up the toy.
3. After the music runs down, wait for a few moments to see how the subject responds. If she does nothing, repeat number two.
4. Repeat about ten times or until the subject tries to wind the toy on her own.
5. Praise when subject begins to wind and give help if she starts but then stops again.
6. Repeat at various intervals throughout the day until subject masters winding the toy.
7. Once one toy has been mastered introduce another toy, following basically the same steps. Show and demonstrate and reinforce.



H. ELIMINATION OF UNDESIRABLE BEHAVIOUR

Short Term GoalObjective:

To eliminate the undesirable behaviours of screaming and whining constantly throughout the day.

Place and Time:

Take subject on a one to one basis where there are few distractions.

Proceed any time the inappropriate behaviours occur.

Program:

a. Basic Criteria:

1. Give plenty of verbal praise and physical attention when inappropriate behaviour is likely to occur. This subject enjoyed being picked up.
2. If inappropriate behaviour occurs, gently put hand over mouth and say, "Quiet, _____."

b. Steps:

1. Hand over mouth if behaviour continues over one minute.
2. Keep hand over mouth until behaviour subsides. Immediately remove hand.
3. As soon as the behaviour ceases, take hand away and pick the subject up giving her lots of praise.

4. As behaviour becomes less frequent just say, "Quiet, _____," when behaviour appears and pick subject up.
5. When the behaviour occurs infrequently, continue to say "Quiet", and give lots of praise when subject stops.

CHAPTER V

POST PROGRAMMING

The results of a specific program following a three month period are explained in this chapter. The investigators illustrate the developmental gains the subject has made as a result of specific programming utilizing the Individual Educational Plan format.

Upon examination of the data compiled on pre and post programming performance of the subject (Fig: 5:1, 5:2, 5:3), it can readily be seen that the educational program has resulted in improved developmental functioning of the subject. All three tests corroborated this point. The PAC (Fig: 5:1) showed the least significant skills gains. This is primarily because the PAC does not allow for small increments of behavioural change, and consequently the subject must make fairly significant gains in developmental skills before improvement is shown on the visual component of this test. (Gunsburg, 1977)

The visual component of the TARC (Fig: 5:2) exhibits dramatic gains in some skills areas. The Vulpé Assessment Battery (Fig: 5:3) gives numeric values of gains in months in all but a few of the developmental skills. It

it important to note that the Vulpé Assessment Battery indicates that there has been no regression in any of the developmental skills. There are cases wherein the subject has made no gains, i.e., Expressive Language, Space Concepts; however, no regression is illustrated. The TARC assessment (Fig. 5:2) and the PAC (Fig. 5:1) both concur on this fact.

These accumulated data illustrate several important points. They indicate that the educational placement and overall intervention strategy has been successful, at least in the short term. Hence, the accountability factor discussed in Chapter III is established. Further, they illustrate the dynamic nature of developmental intervention strategies. This three month post-programming assessment in effect offers a new point of departure for subsequent programming. The program planner(s) or teacher(s) must then examine the present developmental profile, must look for trends or learning patterns, and then attempt to determine if these trends are remaining constant over time, or whether subtle or overt changes are occurring in them. The program planner(s) must try to ensure that the subject's environment will encourage maintenance of skills gained; and if it appears that it will not, the environment will

need to be manipulated. The program planner(s) must speculate on the long and short term effects of programming. These aforementioned are but a few of the variables intrinsic to program design.

Name _____

Age _____

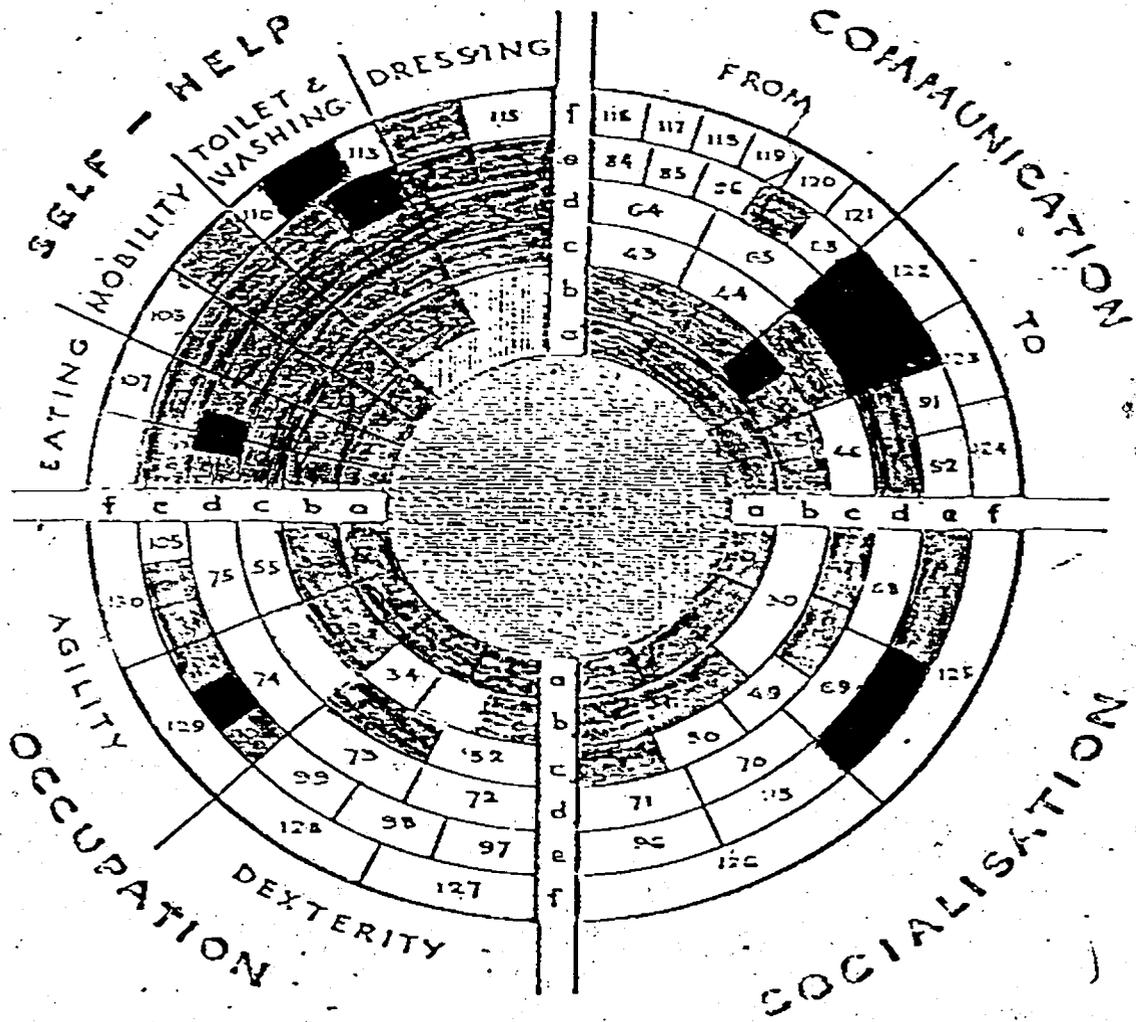


Fig 5:1 PAC

NAME _____ CLASS OR UNIT _____ RATED BY _____ DATE _____
 (or identification number)

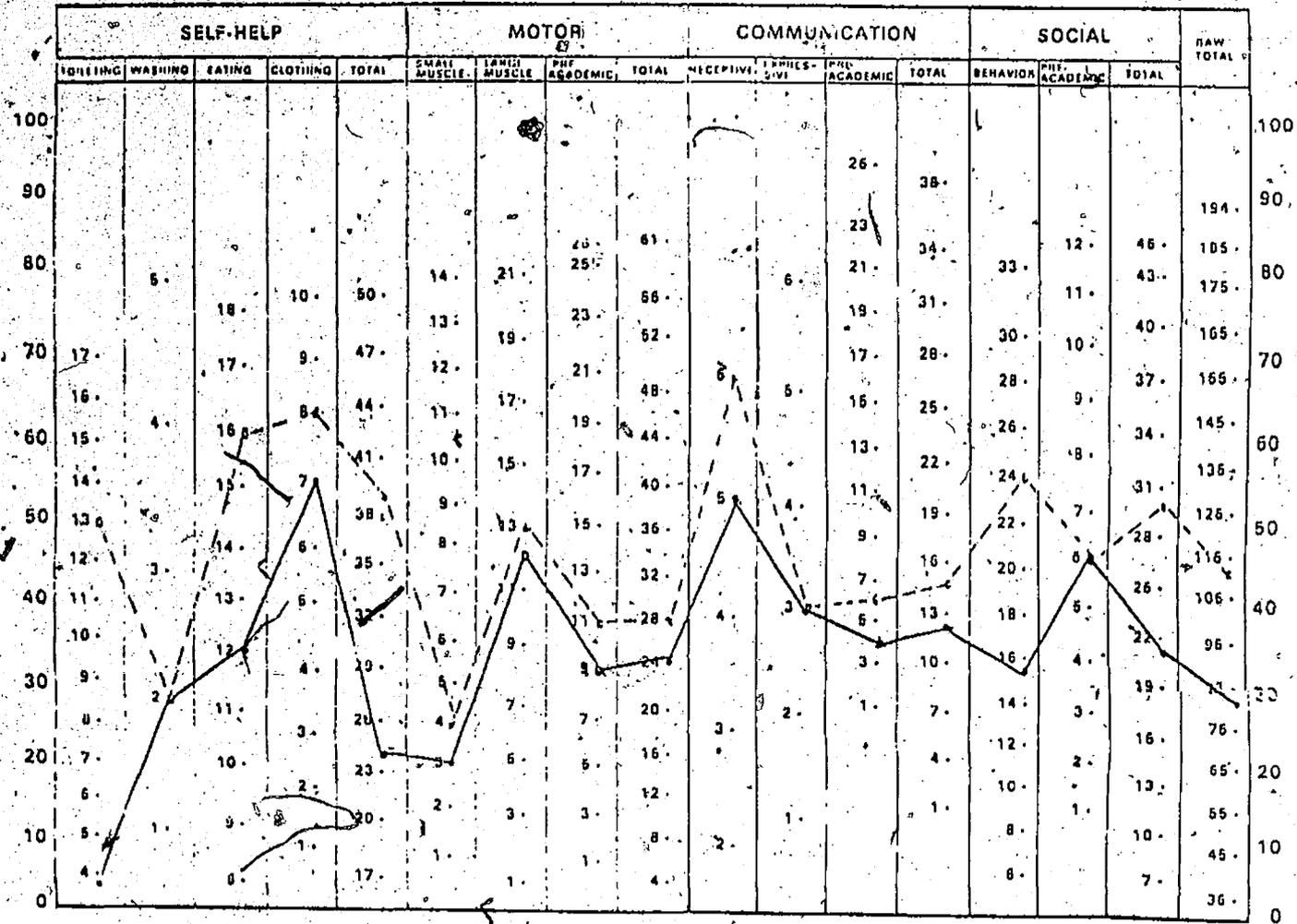


Fig 5-2 TARC *Standard scores here are adjusted so that the mean score is 50 and the standard deviation is 20.

PROFILE SHEET
STANDARD SCORES

BG - Indicates Baseline
Gain in Months

CG - Indicates Ceiling
Gain in Months

DEVELOPMENTAL SKILL	Baseline (months) Pre-Programming	Baseline (months) Post-Programming	Ceiling (months) Pre-Programming	Ceiling (months) Post-Programming	Developmental Level (months) Pre-Programming	Developmental Level (months) Post-Programming	Gains in months
1. Behavioural Organization							
Behavioural control/ Response to limits	12	18	18	20	12-18	18-20	BG 6 CG 2
Attention, goal, orien., Dependence/independence	6	6	12	18	6-12	6-18	CG 6
Problem Solving	12	16	18	24	12-18	16-24	BG 4 CG 6
	9	9	12	12	9-12	9-12	BG 0 CG 0
2. Gross Motor Behaviour	15	18	24	24	15-24	18-24	BG 3 CG 0
3. Fine Motor Behaviour	6	8	10	17	6-10	8-17	BG 2 CG 7
4. Language Behaviour							
Receptive Language	6	8	10	12	6-10	8-12	BG 2 CG 2
Expressive Language	4	4	6	6	4-6	4-6	BG 0 CG 0
5. Cognitive Processing							
Cause/Effect Means/End	4	6	6	8	4-6	6-8	BG 2 CG 2
Size Concepts	3	3	6	6	3-6	3-6	BG 0 CG 0
Body Concepts	6	6	10	12	6-10	6-12	BG 0 CG 2
Shape Concepts	6	10	9	12	6-9	10-12	BG 4 CG 3
Object Concepts	3	4	6	12	3-6	4-12	BG 1 CG 6
Space Concepts	6	6	9	9	6-9	6-9	BG 0 CG 0

Fig 5:3 VULPE ASSESSMENT BATTERY DATA - PRE/POST PROGRAMMING
(Three Month Time Span)

VULPE ASSESSMENT BATTERY
 DATA - PRE/POST PROGRAMMING
 (Three month time span)

DEVELOPMENTAL SKILL	Baseline (months) Pre-Programming	Baseline (months) Post-Programming	Ceiling (months) Pre-Programming	Ceiling (months) Post-Programming	Developmental Level (months) Pre-Programming	Developmental Level (months) Post-Programming	Gains in Months
Amount and Number Concept	NOT ABLE TO BE ASSESSED						
Categorizing and Combining Schema	5	5	7	9	5-7	5-9	BG 0 CG 2
Auditory Discrimination	NOT ABLE TO BE ASSESSED						
6. Activities of Daily Living							
Dressing	18	18	30	32	18-30	18-32	BG 0 CG 2
Feeding	18	18	24	30	18-24	18-30	BG 0 CG 6
Toileting	15	18	18	30	15-18	18-30	BG 3 CG 12
Grooming	9	11	12	14	9-12	11-14	BG 2 CG 2
Sleeping	9	9	12	12	9-12	9-12	BG 0 CG 0
Play	6	7	8	11	6-8	7-11	BG 1 CG 3
Social Interaction	8	10	12	18	8-12	10-18	BG 2 CG 6

Fig 5:3 VULPE ASSESSMENT BATTERY (continued)

CHAPTER VI

INTERVENTION; A PROPOSED MODEL

In the preceding chapters, the investigators illustrated specific aspects of programming for a blind multihandicapped student. In addition, assessment procedures, designation of a teaching program, and educational placement have been discussed in detail for a blind multihandicapped student. The investigators deem that the unique programme developed in Chapter IV is representative of the type of program required by the blind multihandicapped population.

However, it is important to recognize that delivery of service to the blind multihandicapped population is a complex and dynamic issue. The success of the service delivery does not simply reside in the provision of a teaching program. Students must firstly be identified, parents need to be counselled, methods of referral need to be clarified, responsibility for service must be designated. The aforementioned points need to be considered before a teaching program is developed and implemented.

Further, the overall pattern of service delivery

depends partially on the philosophical outlook of the society to which the multihandicapped belong. (Rhodes and Tracy, 1977; Roos, 1969). For example, in the past fifteen years in North America there has been a change in the philosophy towards the mentally retarded. Rather than isolating this population, there has been a trend toward normalization. (Wolfensburger; Glenn, 1975). This type of philosophical stance is a determinant factor that affects many of the modalities of service delivery; i.e. it determines what type of administrators will be sought, what type of buildings to house the handicapped will be built, and what theories will be utilized in teaching the handicapped.

While acknowledging such complexities, the investigators propose a model for overall intervention which, if maximally deployed, would provide optimal servicing for the blind multihandicapped population. The proposed model is examined under the following headings: (1) Intervention Strategy; (2) Educational Placement; and (3) Teaching Strategies in the Educational Placement.

1. INTERVENTION STRATEGY

The earlier the handicapping conditions are detected and treatment begun, the better the prognosis for long term successful intervention and habilitation. This fact is universally accepted and applicable to almost all manifestations of handicapping conditions. (Warnick, 1969; Scott, 1974; Wilmot, 1974). This presumes that an accurate diagnosis of the handicapping conditions be made by the medical profession, and that the family be made aware of the extent of the handicapping conditions. It is at this point that the family should have at its disposal a support network for counselling and guidance services.

There is some dispute as to who can most effectively aid the family in this situation. Surveys undertaken indicate that the physician may not be the most effective counsellor to parents of a handicapped child (Warnick, 1969). Other surveys indicate that amongst parents who receive counselling services in clinics for the handicapped, greater parental satisfaction was expressed when a multi-disciplinary team gave counselling service over a number of sessions (McIntire and Kickhalder as quoted in Warnick, 1969; Jacobs, 1974; Freeman, 1974; Freedman, 1967; Carolan,

1973).

The majority of the literature surveyed concerning the issues of 'how paternal counselling should be undertaken' indicated that parental counselling is best delivered by a multidisciplinary team approach (Jacobs, 1974; Freedman, 1967; Carolan, 1973). The investigators advocate the use of the multidisciplinary team approach in counselling parents of blind multihandicapped children and youth. However, the following should be noted:

1. The team should include representation from health professions, social workers, family therapists, teachers, and pre-school workers.
2. A board or panel of such professionals meeting together with the parents might alarm and intimidate grieving parents; hence, each team member should be prepared to extend his expertise to the parents in an interview situation. He should be able to listen and share information, and should facilitate family decision making, though not force it.
3. Individual team members should be able to advise the parents on available services, referral procedures, and long term plans for their handicapped child.

4. Practical assistance should be provided for the parents of the handicapped, whenever possible, in the home. Follow-up should be undertaken to see how the parents are coping with the handicapped child. Efforts should be made to enlist the extended family (i.e. relatives) as part of the support network when required.
5. The multidisciplinary team should be carefully co-ordinated to ensure their contribution is effective. At present there is available in Halifax/Dartmouth area a similar service. It is offered through the Developmental Clinic, Isaac Walton Killam Hospital for Children. This Clinic basically utilizes the multi-disciplinary team approach.

The next most important factor in the intervention strategy is the treatment of the blind multihandicapped pre-schooler. It is critical that treatment begin early. A student who has a visual impairment should be taught at an early age the sensory skills that he will depend upon both personally and academically for the remainder of his life. (Bishop, 1978; Carolan, 1973; Scott, 1974) A rich environment of sensory and perceptual stimulation is critical if the blind multihandicapped child is to progress through the appropriate developmental stages.

The investigators propose, concomitant with the intervention strategy developed by the aforementioned multi-disciplinary team, the implementation of a system of pre-school itinerant services utilizing personnel with professional credentials and practical experience concerning the blind multihandicapped population.

The role of such pre-school workers would be to work within the home, to develop an infant curriculum for the multihandicapped child, to provide parents and/or primary care-givers with instructional techniques concerning the child's early developmental milestones, and to report back to the multidisciplinary team, on a regular basis, as regards progress, problems, and recommended consults.

Within the proposed model, parents are utilized to provide handicapped children with adequate early stimulation. To enlist parents at an early stage of programming has obvious benefits. Parents are the most important people in the infant's life (twenty-four hours a day), (Scott, 1974). As parents observe that their efforts have some effect on the child's progress they develop warmer, more affectionate and positive attitude toward their child. This is coupled with a better understanding

of the degree of their child's limitations. (Carolan, 1973)

Within the proposed model of intervention an infant curriculum (age 0 - 3 years) should be provided along with the necessary support services. In addition the investigators highly recommend that whenever possible the multi-handicapped child should be placed as a day student in an appropriate pre-school program. Recent research indicates that pre-schooling is desirable for all children, but is even more important for the disadvantaged child (Research and Policy Committee of the Committee for Economic Development, 1971 as quoted in Evans, 1975). The provision of a structured pre-school program, extraneous to the home environment, is desirable for multihandicapped students; but it is of critical importance in a situation wherein the home environment is not conducive to aiding the child's development, and wherein other intervention strategies have failed for one reason or another.

The pre-school program as an intervention strategy should be so structured as to provide the following:

1. to develop a greater degree of independence in the blind child;
2. to develop social skills by providing activities that require interaction with peers and adults;

3. to develop gross and fine motor skills, emotional strength, mobility skills, positive self-concept, and intellectual and cognitive skills in a controlled and structured learning environment;
4. to provide successful experiences in the environment which will aid in subsequent development;
5. to enable the child to experience failure in an environment that will accept it, yet encourage the student to continue to try. (The Allegheny County Society for Crippled Children and Adults, Easter Seal Society, 1965; Evans, 1975.)

The next facet of an intervention strategy for the blind multihandicapped child's education requires that school placement be found appropriate to the student's needs. This includes an assessment of the blind multihandicapped child's needs which must be made before recommendations for educational programming can be tabled. (Jan, Freeman, Scott, 1977)

An intervention strategy such as the one utilized in this study could be employed whereby a developmental assessment of the student is compiled by educators working with the child in his/her home. Another, perhaps more desirable, format could reside in the provision of an

"Assessment Unit" in the facility that serves as a school and resource centre for the blind multihandicapped students. The function of this unit would be to assess an individual student's needs over a designated time period (optimally thirty days). He would then be placed in a unit for blind multi-handicapped students that most closely approximated his needs as indicated by the various assessment tools. This necessarily presupposes that there are in existence a number of separate training units that accommodate various ranges of developmental functioning and have different goal orientations. For example, the severely multihandicapped might be placed in a unit wherein the primary emphasis is on the development of basic self-help skills such as mobility training; whereas the less severely multihandicapped student might be placed in a unit that is somewhat more academically oriented.

It is important to point out that in the model being proposed by the investigators, all decisions regarding placement should, as much as possible, reflect the combined input of both the multi-disciplinary team and the parents, with the educator/assessor's input being singularly important.

2. EDUCATIONAL PLACEMENT

Appropriate and relevant educational placement for blind multihandicapped students is the most important factor in their overall education. Proper placement and programming is certainly of benefit to the individual as well as to society at large. (Johnson and Myklebust, 1967; Bishop, 1971; Gearheart, 1974; Wood, 1969 pp 32-40).

The investigators' proposed model provides several important guidelines which should be operational in any educational placement for blind multihandicapped children and youth. (Gearheart, 1977; Bishop, 1978; Johnson and Myklebust, 1967; Wood, 1969 pp 32-49).

1. Educational placement should be based on the philosophy that all children have the right to equal educational opportunities regardless of their handicapping conditions. They should be educated or trained to lead more integral and productive lives. Placement and programming should be geared toward the satisfaction of this goal.
2. The optimal educational setting for the blind multihandicapped child is a segregated unit wherein both pre-academic and/or academic and residential programming is provided. This unit more closely approximates a home setting. The

physical dimensions of the training unit should, as closely as possible, assimilate the "average" self-contained habitation (i.e. apartment, home) and should have a kitchen, dining area, living room, bathroom, bedrooms, recreational areas, as well as training areas. Such a unit provides the blind multihandicapped student with environmental stability. It also provides a source of security to which the blind multihandicapped student can return, following contacts and encounters with a more confusing outside environment (e.g. doctor appointments, barber shops, trips home, outside classes etc.).

However, it is important to note that a segregated or self-contained unit does not imply that the students need to be segregated. On the contrary, situations should be selectively engineered to provide for the blind multihandicapped students an increasing contact with normal peers, cross-age peers and normalizing situations, both on and off the training unit. This dimension should in fact be included as a goal in the teaching strategies for the blind multihandicapped student. When integration of the blind multihandicapped child into a regular class setting is possible, and is in the individual student's

best interests, this must be the primary mode of education.

3. Qualified personnel must be employed in the educational placement. Hence, it is of great importance that criteria for staff selection, the process of staff selection, and inservice training be given high priority by administrators. It is also evident that with blind multihandicapped students a high staff-to-student ratio is required if skills development is to be maximally expedited. This fact obviously necessitates that in the educational placement for the blind multihandicapped student programming is going to be very expensive, much more expensive for this group than in the case of regular public education. Hence administrators should be aware of the relative value of the educational service provided which, in the case of the blind multihandicapped, cannot be easily measured in conventional terms, such as grade levels.
4. There is the need for long-range planning in the provision of service to the blind multihandicapped. The teacher/assessor should be aware of the student's potential and should provide instructional programming to maximize this potential. These long term plans should be adjusted periodically and

appropriately as the student acquires new skills which may, in fact, alter long term plans. To summarize, these plans should be flexible, and a continuum of services over a broad range is essential for the severely impaired multihandicapped student. Pre-vocational and vocational training is an important early educational consideration.

5. The educational placement should provide, through central co-ordination, accessibility to ancillary programs such as adaptive physical education, recreation and leisure skills programming, religious training, aesthetic training, and music training. In the situation wherein the training unit for the blind multihandicapped student is housed within the resource centre for the visually impaired, provision of these ancillary programs can often be expedited using existing facilities. In other situations wherein the training unit is not in direct proximity to the resource centre, specialists in these aforementioned areas will need to be employed.
6. The educational placement for the blind multihandicapped student should seek to minimize the effect of the handicapping conditions and to maximize the overall development of the child to his/her fullest potential. This

means that adaptive facilities must be employed to accommodate the handicapped and that instructional materials that facilitate development for particular ranges of handicapping conditions must be utilized.

7. Within the educational placement, there should be on-going evaluation of the student's potential in all skills areas, both academic and residential, and appropriate adjustments to programs should be periodically based on these evaluations. It should be understood that formal assessments may not be totally sufficient for identifying and measuring abilities and disabilities, and the teacher/assessor should be trained to conduct relevant anecdotal assessments in the class and in the residential setting.
8. In the situation where a blind multihandicapped student has been given a long term placement in a vocational setting or sheltered industry setting, apart from the school facility, the educator/assessor and the team which has been involved in on-going monitoring of the student should have some input into program dimensions of the long term placement, and should offer their services on a consultancy basis.

3. TEACHING STRATEGIES IN THE EDUCATIONAL PLACEMENT

As a result of the investigators' examination of the components necessary for the development of an Individual Educational Plan, and the observation of the subject throughout this study, the following teaching strategies were determined. Recent research corroborates these findings (The Allegheny County Society for Crippled Children & Adults Inc.; Hart, December, 1979; Tretakoff, March 1969; Rodden, January, 1970; Bender and Valletutti, 1976; Bishop, 1978; Johnson and Myklebust, 1967):

1. A complete evaluation should be done on each child's sensory functions - visual, auditory, and tactual perception - as well as his emotional status. If there is one particular sensory modality which the student prefers, the teacher is then able to structure subsequent learning situations using this modality.
2. Programs need to be individualized especially in early education. This includes the provision for an Individual Educational Plan for each student which is specific to his/her needs and which designates goals and skills areas which need to be remediated.
3. It is necessary that a relative degree of structure be employed in teaching the blind multihandicapped child. Most blind multihandicapped children do not respond to an unstructured situation.

4. Sequential and hierarchically arranged steps should be used when approaching a skill. (E.g., in tying shoes, the child needs to learn to cross the strings first, then progress to the next step and so on until the child reaches the ultimate goal of tying his/her shoes.) Techniques such as task analysis and backward chaining may be employed.
5. The programmer should start at the point where the child is functioning and proceed from there in terms of subsequent program development.
6. The following five areas of development should be emphasized: self-help skills; motor skills (from head control to mobility and orientation skills); language and speech skills; adaptive behaviour; and socialization skills.
7. Teaching should be done on a concrete level especially in the early stages of development, gradually working towards the abstract.
8. The blind mutlihandicapped child must be positively rewarded for successful achievements. Various reward systems may be used, including consumable rewards, praise, and affection, and later more elaborate systems of behavioural reinforcement.
9. Consistency in the environment and teaching methodology is important.

10. A total sensory approach should be used in teaching the blind multihandicapped child. This maximizes the student's information-processing abilities.
11. Independence in all skills should be taught and encouraged.
12. Attention span and memory ability are usually limited. It is preferable to give several short lessons as opposed to a single long lesson. Gradually lengthen instruction time with increased attention span. Blind multihandicapped children must be encouraged to remember in order to learn, because so much of their learning has been only auditory.
13. Tasks need to be of short duration, gradually increasing the length of time with increased ability. Single tasks should be assigned first.
14. Never assume the same experiential background for any Blind multihandicapped child as for his sighted peers. (A sighted child sees a tree, whereas a blind child can only touch certain parts and may have difficulty in associating the integral parts.) Where a child is lacking in his/her basic visual background, the teacher must fill these gaps with concrete points of reference - kinesthetic and auditory clues will be required.

15. A blind multihandicapped child should never be pushed or pulled. Directions should be given verbally or the child told to hold the teacher and follow.
16. Reasonable trial and error should be encouraged. Helping only makes the blind multihandicapped child more dependent.
17. A blind multihandicapped student should always be addressed by anyone entering a room; he is mostly cued by auditory stimulus.
18. Clear, precise and meaningful directions should be given. Language modelling techniques may be used and the nonverbal multihandicapped child should be given, if possible, alternate symbol systems.
19. If applicable, a general academic program should be provided, closely related to that of the regular grades, but adjusted to the blind multihandicapped student's needs.
20. Adaptive skills and their application should be taught, e.g. Braille Writer.
21. Abilities should be taught associated with listening skills (auditory comprehension and discrimination).
22. Visual perception commensurate with the child's ability to be taught.

23. Each child should be prepared academically, and as soon as possible, to function in a regular classroom setting.
24. All programs suggested by the physiotherapist, psychologist, and speech therapist should be implemented within the classroom setting.
25. Parents should be encouraged and provided with suggestions to follow-through with all skills in the home.
26. There should be constant re-evaluation of progress and programs.
27. Love, kindness, understanding, and firmness should always be shown.

SUMMARY

The purpose of this study was to examine the components necessary for the development of educational programs for blind multihandicapped students. In looking at the dynamics involved in designing a program for a single student, the investigators sought to illustrate: (1) that developmental intervention is an effective educational mode and (2) that the theoretical procepts for programming are essentially the same for all blind multihandicapped students.

On the first point, it is evident that the developmental intervention has worked in the case of the subject of this study. An examination of the data under the rubric of pre/post programming will verify this fact.

On the second point, the investigators have indicated that while there is no stereotypic blind multihandicapped student, it is nonetheless possible to generalize on the issue of program requirements. It is safe to assume that all blind multihandicapped students will require intensified, structured, and individualized training in the following areas: all

areas of self-help skills, language development and communication skills, motor skills, occupational or pre-vocational skills, social skills, mobility and orientation skills. The assessment procedure, using the developmental model, simply provides a methodology for designating that program which best coincides with the specific needs of an individual. Hence, a variety of personnel wishing to develop programs for the blind multihandicapped could utilize this study as an overall model for programming.

In addition, the investigators have outlined a comprehensive model of early intervention for the blind multihandicapped student (Fig: 7:1). This model designates a systematic approach to service delivery along the dimensions of diagnosis, assessment, and placement options. However, it is often the case that a student is not referred to the resource centre until other agencies and possibilities have been exhausted. Hence, it is not uncommon to receive a request for service to a blind multihandicapped student who is beyond school age, and whose needs for programming have been exacerbated by the lack of

early intervention. In this case the investigators have designed a model for service delivery to blind multihandicapped children and youth (Fig: 7:2). This model also designates a systematic approach to service delivery along the dimensions of diagnosis, assessment and placement options. Further, the investigators have indicated the requirements which the educational placement for the blind multihandicapped student should meet, and various teaching strategies to be utilized in programming for the blind multihandicapped student within the educational placement.

It is important to point out that at the time of research for this study there is no early intervention strategy of the magnitude suggested herein existing in Atlantic Canada. There is no formalized or centrally coordinated system whereby the parents of the blind multihandicapped infant may receive counselling. There are no comprehensive itinerant pre-school services to the blind multihandicapped student, utilizing personnel with training and credentials specific to this group. Referral systems are at best cumbersome.

These points are not proffered as a sweeping condemnation of existing services or the personnel

involved, but, rather, as a means of illustrating the gaps in the present service and thereby pointing to possible remediation for the future. The kind of model which the investigators suggest is certainly not impossible. Rather, it suggests a more efficient usage and more intelligent deployment of services and professional personnel already in the field, and a reduction in the duplication of services that now exists. It advocates a new spirit of co-operation among all the agencies and professional disciplines involved in the education of the handicapped.

Further, the investigators wish to acknowledge the courage and perseverance shown by the parents of the blind multihandicapped child. They deserve the best services that can be applied and as much real support and understanding as can be extended. They are, if so motivated, the blind multihandicapped child's greatest asset.

The real challenge in the future for this field lies in the designing of policies, models and legislation that will corroborate and compliment the basic philosophy that all children deserve the right to an education.

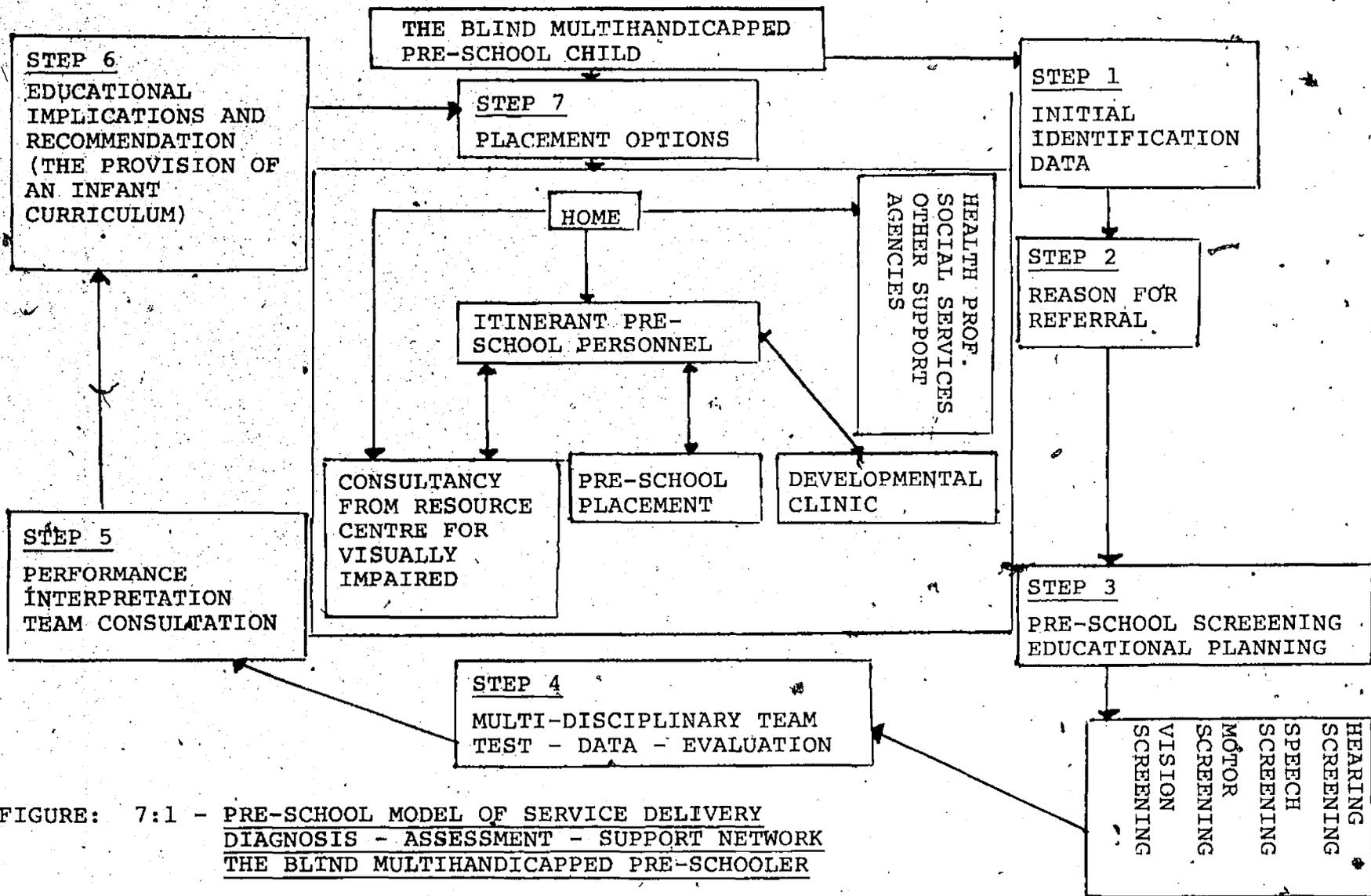


FIGURE: 7:1 - PRE-SCHOOL MODEL OF SERVICE DELIVERY
 DIAGNOSIS - ASSESSMENT - SUPPORT NETWORK
 THE BLIND MULTIHANDICAPPED PRE-SCHOOLER

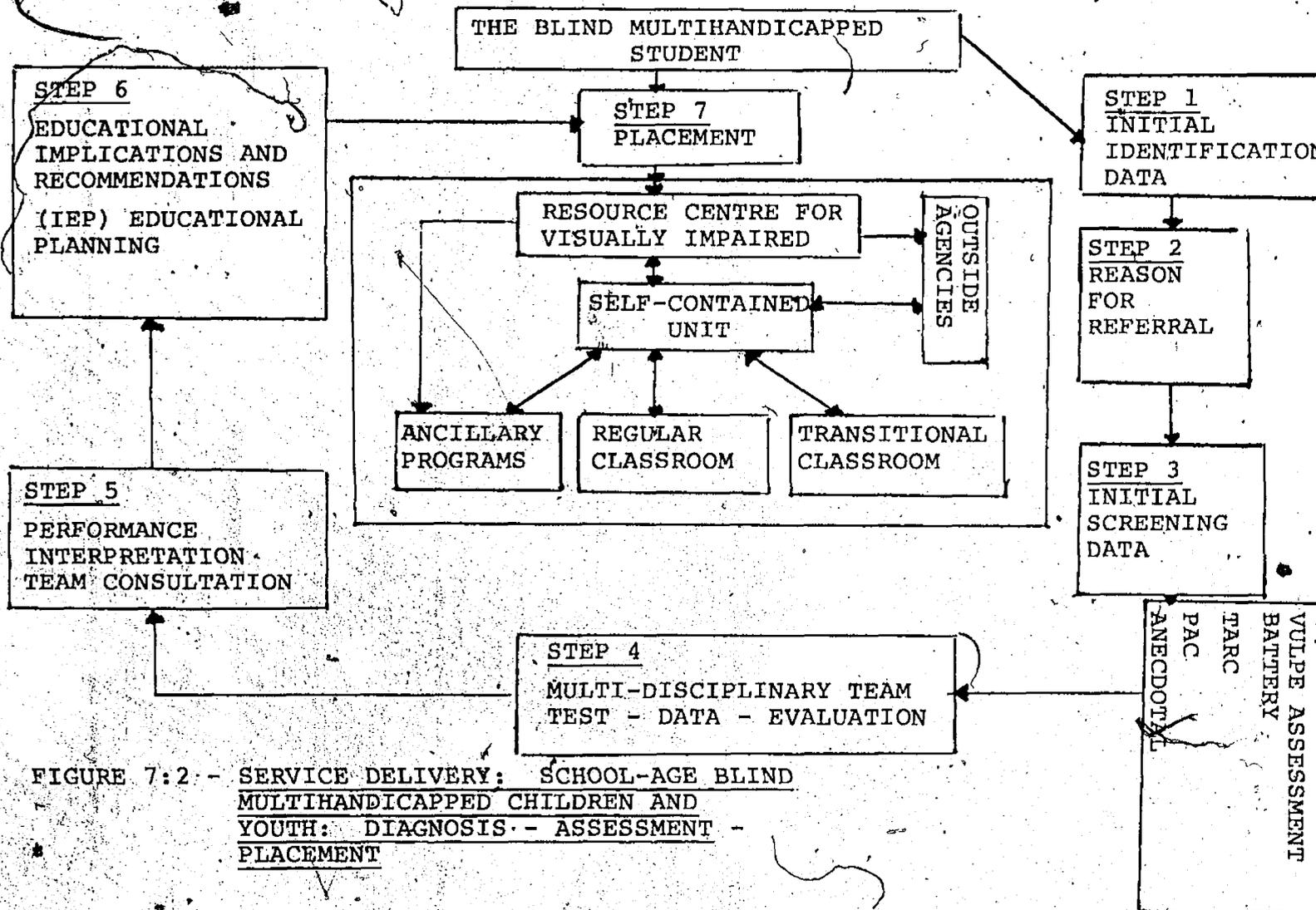


FIGURE 7:2 - SERVICE DELIVERY: SCHOOL-AGE BLIND MULTIHANDICAPPED CHILDREN AND YOUTH: DIAGNOSIS - ASSESSMENT - PLACEMENT

Postscript

Upon completion of the present study, the investigators deem that further research should be directed toward the following areas:

1. Specific evaluation tools and techniques to be utilized in the assessment of blind multihandicapped students should be researched and developed. At present, the assessor of the blind multihandicapped student is required to adapt tests that have been primarily standardized either to "normal" populations or other "specifically handicapped" populations. This practice probably undermines the validity of these results.
2. There is a need for further research into the design of future legislative policies, the existence of which would maximally guarantee the right of the blind multihandicapped to an education in Atlantic Canada. Research might take the form of a comparative study of similar legislation now in place in North America. Extrapolating from this data, the researcher could make recommendations for legislative policies to be adapted in relation to the education of the blind multihandicapped in Atlantic Canada.

3. A comprehensive analysis of the present system of early intervention on behalf of the blind multihandicapped population should be undertaken. Research should be directed toward the design of an efficacious system of service delivery for the blind multihandicapped child at the preschool level.

APPENDIX A

TEST INSTRUMENTS

This appendix lists tests for assessing (1) intellectual ability, (2) adaptive behavior, (3) perceptual motor skills, (4) visual and auditory skills, (5) speech and language skills, (6) achievement, and (7) developmental level. Those who administer the tests should be selected on the basis of their training and experience.

The asterisk (*) indicates a test that may be administered only by a psychologist, psychometrist, or qualified professional designated by Pupil Personnel Services, Provincial Department of Education, Nova Scotia, Canada. Other tests may be administered by teachers.

1. Tests Used in Assessment of Intellectual Ability

SCHOOL LEVEL:	<u>PRIMARY</u>	<u>ELEMENTARY</u>	<u>SECONDARY</u>
	*Draw A Person Test	*Draw A Person Test	
	*Leiter International Performance Scale	*Leiter International Performance Scale	*Leiter International Performance Scale

SCHOOL LEVEL:	PRIMARY	ELEMENTARY	SECONDARY
	*Slosson Intel- ligence Test	*Slosson Intel- ligence Test	*Slosson Intel- ligence Test
	*WIPSI Preschool Test		
	McCarthy Scale for Children	McCarthy Scale for Children	
	*Stanford-Binet Intelligence Scale (L-M)	*Stanford-Binet Intelligence Scale (L-M)	*Stanford-Binet Intelligence Scale (L-M)
	*Wechsler In- telligence Scale for Children (WISC-R)	*Wechsler In- telligence Scale for Children (WISC-R)	*Wechsler In- telligence Scale for Children (WISC-R)

2. Scales Used in Assessment of Adaptive Behavior

SCHOOL LEVEL:	PRIMARY	ELEMENTARY	SECONDARY
	AAMD Adaptive Behavior Scale (for MH)	AAMD Adaptive Behavior Scale for (MH)	AAMD Adaptive Behavior Scale for (MH)

SCHOOL LEVEL:	PRIMARY	ELEMENTARY	SECONDARY
	Cain-Levine	Cain-Levine	
	Social Competency Scale (for MH)	Social Competency Scale (for MH)	
	Fine Point Rating Scale for the Young trainable	Fine Point Rating Scale for the Young trainable	
	Pre-school Attainment Record	Pre-school Attainment Record	
	Vineland Social Maturity Scale	Vineland Social Maturity Scale	Vineland Social Maturity Scale

3. Tests Used in Assessment of Perceptual - Motor Skills

SCHOOL LEVEL:	PRIMARY	ELEMENTARY	SECONDARY
	*Bender-Gestalt Test for Young Children	*Bender-Gestalt Test for Young Children	

SCHOOL LEVEL:	PRIMARY	ELEMENTARY	SECONDARY
	Developmental Test of Visual Motor Integration (Berry and Buktenica	Developmental Test of Visual Motor Integration (Berry and Buktenica	Developmental Test of Visual Motor Integration (Berry and Buktenica)
	Developmental Test of Visual Perception (Frostig)	Developmental Test of Visual Perception (Frostig)	
	The Lincoln Oseretesky Motor Development Scale	The Lincoln Oseretesky Motor Development Scale	The Lincoln Oseretesky Motor Development Scale

4. Tests Used in Assessment of Visual and Auditory Skills

SCHOOL LEVEL:	PRIMARY	ELEMENTARY	SECONDARY
	Auditory Discrimination Test (Wepman)	Auditory Discrimination Test (Wepman)	

SCHOOL LEVEL:	PRIMARY	ELEMENTARY	SECONDARY
	*Auditory Inventory (Rosner)	*Auditory Inventory (Rosner)	*Auditory Inventory (Rosner)
	Developmental Test of Visual Perception (Frostig)	Developmental Test of Visual Perception (Frostig)	
	Memory for Design Test	Memory for Design Test	Memory for Design Test
	*The Bender Visual Motor Gestalt Test for Children	*The Bender Visual Motor Gestalt Test for Children	*The Bender Visual Motor Gestalt Test for Children

5. Test Used in Assessment of Speech and Language Skills

SCHOOL LEVEL:	PRIMARY	ELEMENTARY	SECONDARY
	Goldman Frisloe Test of Articulation	Goldman Frisloe Test of Articulation	Goldman Frisloe Test of Articulation

SCHOOL LEVEL:	PRIMARY	ELEMENTARY	SECONDARY
	*Illinois Test of Psycholinguistic Abilities (revised)	*Illinois Test of Psycholinguistic Abilities (revised)	*Illinois Test of Psycholinguistic Abilities (revised)
	Irvin-Hammill Abstraction Test	Irvin-Hammill Abstraction Test	
	Screening Test for Identifying Children with Specific Language Disabilities (Slingerland)	Screening Test for Identifying Children with Specific Language Disabilities (Slingerland)	
	Verbal Language Development Scale	Verbal Language Development Scale	Verbal Language Development Scale

6. Tests Used in Assessment of Achievement

SCHOOL LEVEL:	PRIMARY	ELEMENTARY	SECONDARY
	Metropolitan	Metropolitan	Metropolitan

SCHOOL LEVEL:	PRIMARY	ELEMENTARY	SECONDARY
	Achievement Tests	Achievement Tests	Achievement Tests
	Peabody Individual Achievement Test	Peabody Individual Achievement Test	Peabody Individual Achievement Test
	Key Test of Mathematics	Key Test of Mathematics	Key Test of Mathematics

7. Test Used in Assessment of Developmental Level

SCHOOL LEVEL:	PRIMARY	ELEMENTARY	SECONDARY
	Vulpe Assessment Battery	Vulpe Assessment Battery	Vulpe Assessment Battery
	The Primary PAC	The PAC level 1 The PAC 1A	The PAC level 2
	The TARC Assessment Inventory	The TARC Assessment Inventory	The TARC Assessment Inventory

SCHOOL LEVEL:	PRIMARY	ELEMENTARY	SECONDARY
	The Callier- AZUSA Scale	The Callier- AZUSA Scale	The Calleier- AZUSA Scale

APPENDIX B

LEGISLATION

1. Regulation Under the Education Act

A significant step toward equal educational opportunity was taken when the Regulations Under the Education Act, Provincial Department of Education, Nova Scotia, were amended to include Regulation 7(c), January 1, 1973, mandating school boards to provide educational service for handicapped students. Sub-section 7(c) reads in its entirety as follows:

"(c) instruction for physically
or mentally handicapped
children."¹

2. Handicapped Persons' Education Act

The Handicapped Person's Education Act² for the

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1. Nova Scotia Department of Education, Regulations Under the Education Act: As Amended by Regulations Up to and Including November 4, 1976. (Halifax, Nova Scotia: Queens Printer, 1979), p. 8.
 2. Province of Nova Scotia, Canada, The Handicapped Persons' Education Act (Halifax: Queens Printer, 1975).

visually and hearing impaired was promulgated in March 1975. The Ministers of Education for the Atlantic Provinces came to an agreement on a cooperative regional provision of new and extended services for individuals suffering these impairments. At the same time the Atlantic Province Special Education Authority was established to set up resource centres for these individuals.

APPENDIX C

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APPENDIX D

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